

In the Claims

Applicants have submitted a new complete claim set showing marked up claims with insertions indicated by underlining and deletions indicated by strikeouts.

Please amend pending claims 140 and 151 as noted below.

Please add new claims 161 and 162 as noted below.

1-64. (Cancelled)

65. (Previously Presented) An article comprising:

a first electrode having a base and a first surface for positioning proximate to an opposing electrode, the first surface being reticulated so as to define a plurality of protrusions and intervening indentations providing a surface area at least 1.5 times the theoretical surface area of a smooth non-reticulating surface, wherein the protrusions have a length l and a cross-sectional thickness a and wherein the cross-sectional thickness a varies along the length l of the protrusion such that the cross-sectional thickness, when averaged along the length of the protrusion, is less than about 100 microns.

66. (Previously presented) The article of claim 65, wherein the protrusions are positioned periodically, aperiodically, or randomly on the first reticulating surface.

67. (Previously presented) The article of claim 65, wherein the first surface has a surface area that is at least 2 times the theoretical area of a smooth, non-reticulated configuration.

68. (Previously presented) The article of claim 65, wherein the first surface has a surface area that is at least 2.5 times the theoretical area of a smooth, non-reticulating configuration.

69. (Previously presented) The article of claim 65, wherein the first surface has a surface area that is at least 3 times the theoretical area of a smooth, non-reticulating configuration.

70. (Previously presented) The article of claim 65, wherein the first surface has a surface area that is at least 4 times the theoretical area of a smooth, non-reticulating configuration.

71. (Previously presented) The article of claim 65, wherein the first surface has a surface area that is at least 5 times the theoretical area of a smooth, non-reticulating configuration.

72. (Previously presented) The article of claim 65, wherein the cross-sectional width a of the protrusion increases at cross-sections approaching the base of the first electrode.

73. (Previously presented) The article of claim 65, wherein a cross-sectional area of the protrusion at a first position near to the base of the first electrode is greater than a cross-sectional area of the protrusion at a second position that is farther from the base.

74-75. (Cancelled)

76. (Previously presented) The article of claim 65, wherein the opposing electrode has a smooth, non-reticulating surface.

77. (Previously presented) The article of claim 65, wherein the opposing electrode has a base and a second surface, reticulated so as to define a plurality of protrusions and intervening indentations providing a surface area at least 1.5 times the theoretical surface area of a smooth non-reticulating surface, wherein the protrusions have a length m and a cross-sectional thickness b .

78. (Previously presented) The article of claim 65, wherein the opposing electrode has a base and a second surface, reticulated so as to define a plurality of protrusions and intervening indentations providing a surface area at least 1.5 times the theoretical surface area of a smooth non-reticulating surface, wherein the protrusions have a length m and a cross-sectional thickness b and wherein the cross-sectional thickness b varies along the length m of the protrusion.

79. (Previously presented) The article of claim 78, wherein the second surface has a surface area at least 2 times the theoretical surface area of a smooth non-reticulating surface.

80. (Previously presented) The article of claim 78, wherein the second surface has a surface area at least 2.5 times the theoretical surface area of a smooth non-reticulating surface.

81. (Previously presented) The article of claim 78, wherein the second surface has a surface area at least 3 times the theoretical surface area of a smooth non-reticulating surface.

82. (Previously presented) The article of claim 78, wherein the second surface has a surface area at least 3.5 times the theoretical surface area of a smooth non-reticulating surface.

83. (Previously presented) The article of claim 78, wherein the second surface has a surface area at least 4 times the theoretical surface area of a smooth non-reticulating surface.

84. (Previously presented) The article of claim 78, wherein the second surface has a surface area at least 5 times the theoretical surface area of a smooth non-reticulating surface.

85. (Previously presented) The article of claim 78, wherein the protrusions of the second reticulating surface are positioned periodically, aperiodically or randomly.

86. (Previously presented) The article of claim 78, wherein the cross-sectional width b of the protrusion increases at cross-sections approaching the base of the opposing electrode.

87. (Previously presented) The article of claim 78, wherein a cross-sectional area of the protrusion at a first position near to the base of the first electrode is greater than a cross-sectional area of the protrusion at a second position that is farther from the base.

88. (Previously presented) The article of claim 78, wherein the cross-sectional area of the protrusions of the second reticulating surface increases at cross-sections approaching the base of the opposing electrode.

89. (Cancelled)

90. (Previously presented) The article of claim 78, wherein the first and second reticulating surfaces are interpenetrating.

91. (Previously presented) The article of claim 78, wherein the second reticulating surface of the opposing electrode is complementary to the first reticulating surface of the first electrode.

92. (Previously presented) The article of claim 90 or 91, wherein the average distance between complementary reticulating surfaces is less than 100 microns.

93. (Previously presented) The article of claim 90 or 91, wherein the average distance between complementary reticulating surfaces is less than 50 microns.

94. (Previously presented) The article of claim 90 or 91 wherein the average distance between complementary reticulating surfaces is less than 25 microns.

95. (Previously presented) The article of claim 90 or 91, wherein the average distance between complementary reticulating surfaces is less than 10 microns.

96. (Previously presented) The article of claim 78, further comprising an electrolyte positioned between the complementary first and second reticulating surfaces.

97. (Previously presented) The article of claim 65, wherein the first electrode is porous.

98. (Previously presented) The article of claim 97, wherein the opposing electrode is porous.

99-128. (Cancelled)

129. (Previously Presented) An article comprising:

a first electrode having a base and a first surface for positioning proximate to an opposing electrode, the first surface being reticulated so as to define a plurality of protrusions and intervening indentations providing a surface area at least 1.5 times the theoretical surface area of a smooth non-reticulating surface, wherein the protrusions have a length l and a cross-sectional thickness a and are positioned aperiodically on the first reticulating surface, and wherein the cross-sectional thickness a varies along the length l of the protrusion.

130. (Previously Presented) The article of claim 129, wherein the first surface has a surface area that is at least 2 times the theoretical area of a smooth, non-reticulated configuration.

131. (Previously Presented) The article of claim 129, wherein the cross-sectional width a of the protrusion increases at cross-sections approaching the base of the first electrode.

132. (Previously Presented) The article of claim 129, wherein a cross-sectional area of the protrusion at a first position near to the base of the first electrode is greater than a cross-sectional area of the protrusion at a second position that is farther from the base.

133. (Previously Presented) The article of claim 129, wherein the opposing electrode has a base and a second surface, reticulated so as to define a plurality of protrusions and intervening indentations providing a surface area at least 1.5 times the theoretical surface area of a smooth non-reticulating surface, wherein the protrusions have a length m and a cross-sectional thickness b and wherein the cross-sectional thickness b varies along the length m of the protrusion.

134. (Previously Presented) The article of claim 133, wherein the second surface has a surface area at least 2 times the theoretical surface area of a smooth non-reticulating surface.

135. (Previously Presented) The article of claim 133, wherein the cross-sectional width b of the protrusion increases at cross-sections approaching the base of the opposing electrode.

136. (Previously Presented) The article of claim 133, wherein a cross-sectional area of the protrusion at a first position near to the base of the first electrode is greater than a cross-sectional area of the protrusion at a second position that is farther from the base.

137. (Previously Presented) The article of claim 133, wherein the cross-sectional area of the protrusions of the second reticulating surface increases at cross-sections approaching the base of the opposing electrode.

138. (Previously Presented) The article of claim 133, further comprising an electrolyte positioned between the complementary first and second reticulating surfaces.

139. (Previously Presented) The article of claim 129, wherein the first electrode is porous.

140. (Currently Amended) An article comprising:

a first electrode having a base and a first surface for positioning proximate to an opposing electrode, the opposing electrode having a smooth, non-reticulating surface opposing the first electrode, the first surface being reticulated so as to define a plurality of protrusions and intervening indentations providing a surface area at least 1.5 times the theoretical surface area of a smooth non-reticulating surface, wherein the protrusions have a length l and a cross-sectional thickness a and wherein the cross-sectional thickness a varies along the length l of the protrusion.

141. (Previously Presented) The article of claim 140, wherein the first surface has a surface area that is at least 2 times the theoretical area of a smooth, non-reticulated configuration.

142. (Previously Presented) The article of claim 140, wherein the cross-sectional width a of the protrusion increases at cross-sections approaching the base of the first electrode.

143. (Previously Presented) The article of claim 140, wherein a cross-sectional area of the protrusion at a first position near to the base of the first electrode is greater than a cross-sectional area of the protrusion at a second position that is farther from the base.

144. (Previously Presented) The article of claim 140, wherein the opposing electrode has a base and a second surface, reticulated so as to define a plurality of protrusions and intervening indentations providing a surface area at least 1.5 times the theoretical surface area of a smooth non-reticulating surface, wherein the protrusions have a length m and a cross-sectional thickness b and wherein the cross-sectional thickness b varies along the length m of the protrusion.

145. (Previously Presented) The article of claim 144, wherein the second surface has a surface area at least 2 times the theoretical surface area of a smooth non-reticulating surface.

146. (Previously Presented) The article of claim 144, wherein the cross-sectional width b of the protrusion increases at cross-sections approaching the base of the opposing electrode.

147. (Previously Presented) The article of claim 144, wherein a cross-sectional area of the protrusion at a first position near to the base of the first electrode is greater than a cross-sectional area of the protrusion at a second position that is farther from the base.

148. (Previously Presented) The article of claim 144, wherein the cross-sectional area of the protrusions of the second reticulating surface increases at cross-sections approaching the base of the opposing electrode.

149. (Previously Presented) The article of claim 144, further comprising an electrolyte positioned between the complementary first and second reticulating surfaces.

150. (Previously Presented) The article of claim 140, wherein the first electrode is porous.

151. (Currently Amended) An article comprising:

a first, porous electrode having a base and a first surface for positioning proximate to an opposing electrode, the first porous electrode having an average porosity of from about 10% to about 70%, the first surface being reticulated so as to define a plurality of protrusions and intervening indentations providing a surface area at least 1.5 times the theoretical surface area of

a smooth non-reticulating surface, wherein the protrusions have a length l and a cross-sectional thickness a and wherein the cross-sectional thickness a varies along the length l of the protrusion.

152. (Previously Presented) The article of claim 151, wherein the first surface has a surface area that is at least 2 times the theoretical area of a smooth, non-reticulated configuration.

153. (Previously Presented) The article of claim 151, wherein the cross-sectional width a of the protrusion increases at cross-sections approaching the base of the first electrode.

154. (Previously Presented) The article of claim 151, wherein a cross-sectional area of the protrusion at a first position near to the base of the first electrode is greater than a cross-sectional area of the protrusion at a second position that is farther from the base.

155. (Previously Presented) The article of claim 151, wherein the opposing electrode has a base and a second surface, reticulated so as to define a plurality of protrusions and intervening indentations providing a surface area at least 1.5 times the theoretical surface area of a smooth non-reticulating surface, wherein the protrusions have a length m and a cross-sectional thickness b and wherein the cross-sectional thickness b varies along the length m of the protrusion.

156. (Previously Presented) The article of claim 155, wherein the second surface has a surface area at least 2 times the theoretical surface area of a smooth non-reticulating surface.

157. (Previously Presented) The article of claim 155, wherein the cross-sectional width b of the protrusion increases at cross-sections approaching the base of the opposing electrode.

158. (Previously Presented) The article of claim 155, wherein a cross-sectional area of the protrusion at a first position near to the base of the first electrode is greater than a cross-sectional area of the protrusion at a second position that is farther from the base.

159. (Previously Presented) The article of claim 155, wherein the cross-sectional area of the protrusions of the second reticulating surface increases at cross-sections approaching the base of the opposing electrode.

160. (Previously Presented) The article of claim 155, further comprising an electrolyte positioned between the complementary first and second reticulating surfaces.

161. (New) The article of claim 151, wherein the first electrode has an average porosity of from about 20% to about 50%.

162. (New) The article of claim 151, wherein the first electrode has an average porosity of from about 30% to about 45%.